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# On the Junk Mail Problem

In the ARPA Network Host/IMP interface protocol there is no mechanism for the Host to selectivly refuse messages. This means that a Host which desires to receive some particular messages must read all messages addressed to it. Such a Host could be sent many messages by a malfunctioning Host. This would constitute a denial of service to the normal users of this Host. Both the local users and the network communication could suffer. The services denied are the processor time consumed in examining the undesired messages and rejecting them, and the loss of network thruput or increased delay due to the unnecessary busyness of the network.

It would be useful for a Host to be able to decline messages from sources it believes are misbehaving or are simply annoying. If the Host/IMP interface protocol allowed the Host to say to the IMP "refuse messages from Host X", the IMPs could discard the unwanted messages at their earliest opportunity returning a "refused" notice to the offending Host.

How the IMPs might do this is an open issue -- here are two possibilities:

The destination IMP would keep a list (per local Host) of sources to refuse (this has the disadvantage of keeping the network busy).

The destination IMP on receiving the "refuse messages from Host X" message forwards the message to the source IMP (the IMP local to Host X). That IMP keeps a list (per local Host) of destinations that are refusing messages from this source Host.

This restriction on messages might be removed by a destination Host either by sending a "accept messages from Host X" message to the IMP, or by reseting its Host/IMP interface.

A Host might make use of such a facility by measuring, per source, the number of undesired messages per unit time, if this measure exceeds a threshold then the Host could issue the "refuse messages from Host X" message to the IMP.